

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

CLEANUP and ABATEMENT ORDER NO. 97-17
FOR THE COUNTY OF SAN DIEGO
RAMONA SANITARY LANDFILL
SAN DIEGO COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter the Regional Board), finds that:

1. The County of San Diego, discharges municipal solid waste (MSW) at the Ramona Sanitary Landfill. The discharge of solid waste at the Ramona Landfill is regulated by waste discharge requirements contained in Resolution No. 70-R14, as amended by Order No. 93-86. The Ramona Landfill is subject to the requirements of California Code of Regulations Title 23, Division 3, Chapter 15 (23 CCR).
2. The Ramona Landfill is located in Section 34, Township 12 South, Range 1 East of the San Bernardino Meridian. The landfill is approximately 2.5 miles north of the city of Ramona, northwest of the intersection of Pamo and Burma Roads.
3. The Ramona Landfill overlies groundwater designated as suitable as a source of domestic and municipal supply (drinking water).

Water Quality Assessment

4. Volatile organic compounds (VOCs) including; tetrachloroethene (PCE), 1,1-dichloroethane (1,1-DCA), trichloroethene (TCE), and methylene chloride, at concentrations that exceed drinking water standards have been detected in groundwater at the Ramona Landfill. Increased concentrations of total dissolved solids, nitrate, calcium, magnesium, potassium, and sodium have also been detected.
5. PCE pollution from the Ramona Landfill was also detected in concentrations exceeding drinking water standards in a domestic well on property owned by Mr. and Mrs. George Lucas. Use of the well was subsequently discontinued.
6. VOCs from discharges of MSW at the Ramona Landfill have been discharged to groundwater creating a condition of pollution.
7. The County shall institute an **evaluation monitoring program** pursuant to 23 CCR Section 2550.9 whenever there is statistically significant evidence of a release, or (i), or significant physical evidence of a release from the waste management unit.
8. In February 1993, the County of San Diego (hereinafter referred to as County) instituted an **evaluation monitoring program** per 23 CCR Sections 2550.8(g) and 2550.9 and Provision 13 (c)(4)(B) of Order 93-86. The purpose of this report was to define the nature and extent of pollution and contamination from the Ramona Landfill.

9. The County shall institute a **corrective action program** that complies with 23 CCR Section 2550.10.
10. In May 1996, the County proposed a Corrective Action Monitoring Program to comply with monitoring requirements contained in 23 CCR Section 2550.10. The monitoring program contained proposed monitoring parameters, sampling frequencies, and sample sizes among impacted wells.

Interim Remedial Measures

11. In October 1993, the County implemented an interim corrective action program utilizing four monitoring wells (ITRA- 1, ITRA-5, RAGW-3, and RAGW-5) located along the northern, eastern and southern boundaries of the landfill site. Attachment 1, shows the location of extraction wells and groundwater monitoring wells.
12. The County has also installed a landfill gas extraction system to collect and control vapors from the landfill. The County contends that landfill gas is a significant cause of groundwater contamination and that gas extraction is an integral part of their efforts to correct groundwater contamination.

Hydrogeology

13. Groundwater flow beneath the landfill appears to split in response to natural topography and structural conditions. The principal groundwater flow is to the east, and south. The southerly flow may be influenced by offsite pumping of domestic wells. North of the landfill groundwater generally flows southeast. East of the landfill the groundwater flow changes direction and flows north along Pamo Valley.
14. A geophysical survey indicated a northwest-trending fracture zone of high groundwater bearing capability, separated by wider zones of low-fracture density with significantly lower groundwater yield.

Applicable/Relevant and Appropriate Regulations

15. The California Water Code (CWC) Section 13304 requires that any person who has discharged or discharges waste into waters of the State in violation of any waste discharge requirement or other Order or prohibition issued by a Regional Board or the State Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the State and creates, or threatens to create, a condition of pollution or nuisance may be required to clean up the discharge and abate the effects thereof. CWC Section 13304 authorizes Regional Boards to require complete cleanup of all waste discharged and restoration of affected water to background conditions (i.e., the water quality that existed before the discharge).

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16. Pursuant to CWC Section 13304, the Regional Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
17. Where the discharge of waste has resulted in discharges subject to CWC Section 13304, the following regulations and policies shall be considered when establishing cleanup levels:
 - a. California Code of Regulations (CCR) Title 23, Division 3, Chapter 15, **Discharges of Waste to Land**, applies to this discharge and requires that cleanup and abatement actions intended to contain wastes at the place of release are to implement the applicable provisions of that chapter, to the extent feasible (23 CCR Section 2311(d)). Article 5 prescribes a methodology for establishing cleanup standards and undertaking corrective actions where discharges to a waste management unit have resulted in discharges subject to CWC Section 13304.
 - b. State Board Resolution No. 68-16, **Statement of Policy with Respect to Maintaining High Quality of Waters in California**, applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Non-background cleanup levels must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.
 - c. State Board Resolution No. 92-49 (as amended), **Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304**, applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

CEQA

18. This action is an Order to enforce the laws and regulations administered by the Regional Board. As such, this action is categorically exempt from the provisions of the California-Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

Notification

19. The Regional Board has notified the County and all interested agencies and persons of its intent under CWC Section 13304 to issue a Cleanup and Abatement Order for the discharge, and has provided them with an opportunity to submit their written comments.

Public Hearing

20. The Regional Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code Section (CWC) §13304, the County of San Diego, or its agents, successors, or assigns, (hereinafter referred to as discharger) shall take remedial action to cleanup and abate the effects of the discharge, as described in the above findings:

A. DIRECTIVES

1. The discharger shall institute an **evaluation monitoring program** pursuant to 23 CCR Section 2550.9 whenever there is statistically significant evidence of a release, pursuant to Sections 2550.8 (g) or (i), or significant physical evidence of a release from the waste management unit.
2. In conjunction with an evaluation monitoring program or a corrective action program, the discharger shall **continue to conduct a detection monitoring program** under 23 CCR Section 2550.8 as necessary to provide the best assurance of the detection of subsequent releases from the waste management unit.
3. Pursuant to 23 CCR Section 2550.9, the evaluation monitoring program shall be used to **assess the nature and extent of the release** from the waste management unit and to design a corrective action program meeting the requirements of 23 CCR Section 2550.10.
4. The discharger shall collect and analyze all data necessary to assess the nature and extent of the release from the waste management unit. This assessment shall include a determination of the **spatial distribution and concentration of each constituent of concern** throughout the zone affected by the release. The discharger shall complete and submit this assessment within 90 days of establishing an evaluation monitoring program.
5. Based on the data collected pursuant to 23 CCR Sections 2550.9 (b) and (e), the discharger shall **update the engineering feasibility study** for corrective action required pursuant to 23 CCR Section 2550.8(k)(6). The discharger shall submit this engineering feasibility study to the Regional Board within 90 days of establishing an evaluation monitoring program.
6. Based on the data collected pursuant to Directive No. 3 and on the engineering feasibility study submitted pursuant to Directive No. 5 of this section, the discharger shall submit an amended report of waste discharge to **establish a corrective action program** meeting the requirements of 23 CCR Section 2550.10. The discharger shall

submit this report to the Regional Board within 90 days of establishing an evaluation monitoring program. This report shall at a minimum include the following information:

- (a) a detailed assessment of the nature and extent of the release from the waste management unit;
- (b) a proposed water quality protection standard, including any proposed concentration limits greater than background under 23 CCR Section 2550.4, and all data necessary to justify each such limit;
- (c) a detailed description of proposed corrective action measures that will be taken to achieve compliance with the water quality protection standard proposed for a corrective action program; and
- (d) a plan for a water quality monitoring program that will demonstrate the effectiveness of the proposed corrective action.

7. In conjunction with the assessment conducted pursuant to Directive No. 3, the discharger shall monitor groundwater, surface water, and the unsaturated zone to evaluate changes in water quality resulting from the release from the waste management unit. In conducting this monitoring, the discharger shall comply with the following requirements:

- (a) the discharger shall **install water quality monitoring systems** that are appropriate for evaluation monitoring and that comply with the provisions of 23 CCR Section 2550.7. These water quality monitoring systems may include all or part of existing monitoring systems;
- (b) the discharger shall propose for approval by the Regional Board a **list of monitoring parameters for each medium** (groundwater, surface water, and the unsaturated zone) to be monitored pursuant to 23 CCR Section 2550.7. The list for each medium shall include all hazardous constituents that have been detected in that medium and those physical parameters, waste constituents, and reaction products that provide a reliable indication of changes in water quality resulting from any release from the waste management unit to that medium.
- (c) the discharger shall **monitor for the monitoring parameters** listed in the waste discharge requirements pursuant to Directive No. 7(b).
- (d) in addition to monitoring for the monitoring parameters specified pursuant to Directive No. 7(b) of this section, the discharger shall **periodically monitor for all constituents of concern** specified in the waste discharge requirements

and evaluate changes in water quality due to the release from the waste management unit.

- (e) the discharger shall conduct **water quality monitoring for each monitoring parameter** and each constituent of concern in accordance with 23 CCR Section 2550.7(e)(12). The discharger shall maintain a record of water quality analytical data as measured and in a form necessary for the evaluation of changes in water quality due to a release from the waste management unit;
 - (f) while awaiting final approval of an amended report of waste discharge to establish a corrective action program, the discharger shall **evaluate all water quality data** obtained pursuant to Section (e) of this section with respect to the design criteria for the corrective action program. If the evaluation indicates that the plan for corrective action is insufficient, the discharger shall:
 - (A) notify the Regional Board by certified mail within 7 days of such determination; and
 - (B) within 90 days of such determination, submit for approval by the Regional Board any appropriate changes to the amended report of waste discharge.
8. The discharger shall institute a **corrective action program** under 23 CCR Section 2550.10, when the Regional Board determines pursuant to 23 CCR Section 2550.9 that the assessment of the nature and extent of the release and the design of a Corrective Action Program have been satisfactorily completed and the Regional Board approves the application for an amended report of waste discharge for corrective action submitted by the discharger during an evaluation monitoring program pursuant to 23 CCR Section 2550.9(d).
9. The discharger shall **establish a corrective action program** for the waste management unit, and at a minimum, comply with the requirements of 23 CCR Section 2550.10, "Corrective Action Program" for that unit.
10. The discharger shall take corrective action to remediate releases from the waste management unit and to ensure that the waste management unit achieves compliance with the water quality protection standard under 23 CCR Section 2550.2.
11. The discharger shall **implement corrective action measures** that ensure that constituents of concern achieve their respective concentration limits at all monitoring points and throughout the zone affected by the release, including any portions thereof that extend beyond the facility boundary, by removing the waste constituents or treating them in place.

12. In conjunction with the corrective action measures, the discharger shall establish and implement a water quality monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for an evaluation monitoring program under 23 CCR Section 2550.9. The monitoring program shall be effective in determining compliance with the water quality protection standard under 23 CCR Section 2550.2, and in determining the success of the corrective action measures pursuant to Directive No. 3.
13. The discharger shall take steps to prevent further migration of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of water of the State.
14. The discharger shall take steps to prevent activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances.

B. WATER QUALITY PROTECTION STANDARDS

The following Water Quality Protection Standards are established using background well ITRA-2, which was sampled for constituents of concern parameters, including all constituents listed in Appendices I and II of Part 258, Title 40, Code of Federal Regulations (40 CFR Part 258) during four sampling events in 1995. Concentration limits for the monitoring parameters; TDS, chloride, nitrate, sulfate, and pH, are based on available historical data. The Water Quality Protection Standards shall be the lower of the calculated concentration limit or the State or Federal maximum concentration limit (MCL) established for drinking water.

Constituent	Calculated Concentration Limit (mg/l)	Maximum Concentration Limit (mg/l)
Antimony	0.003	0.006
Arsenic	0.005	0.05
Barium	0.25	1
Beryllium	0.0002	0.004
Cadmium	0.0002	0.005
Chromium	0.01	0.05
Copper	0.31	1
Lead	0.001	0.015
Mercury	0.0002	0.002
Nickel	0.015	0.1
Selenium	0.013	0.05
Silver	0.003	0.1
Thallium	0.001	0.002
Zinc	0.136	5

Total Dissolved Solids	363	500
Sulfate	35	250
Chloride	50	250
Nitrate (N)	3.2	10
Cyanide	0.01	0.2

C. PROVISIONS

1. **NO NUISANCE:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in CWC Section 13050 (m).
2. **Good Operation and Maintenance (O&M):** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery pursuant to California Water Code Section 13304:** The discharger shall be liable for all reasonable costs actually incurred by the Regional Board to investigate unauthorized dischargers of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. Disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. If the Ramona Landfill site is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program.
5. **Access to Site and Records:** In accordance with CWC Section 13267(c), the discharger shall permit the Regional Board or its authorized representative;
 - (a) Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - (b) Access to copy any records required to be kept under the requirements of this Order.
 - (c) Inspection of any monitoring or remediation facilities installed in response to this Order.
 - (d) Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

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6. **Monitoring and Reporting Program:** The discharger shall comply with the Monitoring and Reporting Program No. 97-17 as attached to this Order and as may be amended by the Executive Officer.
7. **Contractor/Consultant Qualifications:** All hydrogeologic documents (plans, specifications, and reports) shall be signed by and stamped with the seal of a California Registered Geologist, a Specialist Geologist, California Certified Engineering Geologist, or a California Registered Civil Engineer with appropriate hydrologic experience.
8. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Regional Board using approved US Environmental Protection Agency methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Regional Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).
9. **Changed Owner or Operator:** This Order is not transferable to any person except after notice to the Regional Board of any proposed transfer of the property and/or responsibility to a new discharger. The Regional Board may require modification, revocation, or reissuance of this Order to change the name of the discharger and to incorporate such other requirements as may be necessary under the California Water Code.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in, or on, any waters of the State, or discharged or deposited where it is, or likely will be, discharged in, or on, any waters of the State, the discharger shall report such discharge to the Regional Board by calling (619) 467-2952 during regular office hours (Monday through Friday, 0800 to 1700). A written report shall be filed with the Regional Board within five working days describing: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified. This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.
11. If the discharger demonstrates that a source other than the waste management unit caused the presence of waste constituents in groundwater or that the waste constituents are an artifact caused by an error in sampling, analysis, or statistical evaluation, or by natural variation in groundwater, surface water, or the unsaturated zone, the Regional Board shall rescind the Cleanup and Abatement Order and the discharger shall re-institute a detection monitoring program meeting the requirements of 23 CCR Article 5. In making a demonstration under this subsection, the discharger shall:

- (a) notify the Regional Board by certified mail that the discharger intends to make a demonstration pursuant to this subsection;
 - (b) submit a report to the Regional Board that demonstrates that a source other than the waste management unit caused the presence of waste constituents in groundwater or that the waste constituents resulted from error in sampling, analysis, or evaluation, or from natural variation in groundwater, surface water, or the unsaturated zone;
 - (c) submit to the Regional Board an amended report of waste discharge to re-institute a detection monitoring program for the unit. This report shall propose all appropriate changes to the monitoring program; and
 - (d) continue to monitor in accordance with the evaluation monitoring program established pursuant to this section.
12. Corrective action measures taken pursuant to Directive No. 3 may be terminated when the discharger demonstrates to the satisfaction of the Regional Board that the concentrations of all constituents of concern are reduced to levels below their respective concentration limits.
13. After suspending the corrective action measures, pursuant to Provision No. 2, the waste management unit shall remain in the Corrective Action Program until an approved Detection Monitoring Program meeting the requirements of 23 CCR Section 2550.8 has been incorporated into waste discharge requirements and until the discharger demonstrates to the satisfaction of the Regional Board that the waste management unit is in compliance with the water quality protection standard. This demonstration shall be based on the following criteria and requirements:
- (a) The concentration of each constituent of concern in each sample from each monitoring point in the Corrective Action Program for the waste management unit must have remained at or below its respective concentration limit during a proof period of at least one year, beginning immediately after the suspension of corrective action measures; and
 - (b) The individual sampling events for each monitoring point must have been evenly distributed throughout the proof period and have consisted of no less than eight sampling events per year per monitoring point.
14. The discharger shall report, in writing, to the Regional Board on the effectiveness of the corrective action program. The discharger shall submit these reports at least semi-annually. More frequent reporting shall be required by the Regional Board as necessary to ensure the protection of human health and the environment.

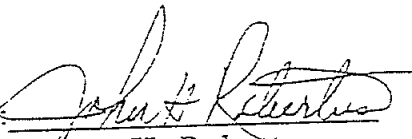
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15. If the discharger determines that the corrective action program does not satisfy the provisions of this section, the discharger shall, within 90 days of making the determination, submit an amended report of waste discharge to make appropriate changes to the program.
16. Any time the Regional Board determines that the corrective action program does not satisfy the requirements of this section, the discharger shall, within 90 days of receiving written notification of such determination by the Regional Board, submit an amended report of waste discharge to make appropriate changes to the program.
17. **Periodic Review:** The Regional Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Regional Board revise these requirements.
18. **Notifications/Reporting requirements:** Failure to comply with the requirements of this Order may subject you to enforcement action, including but not limited to: imposition of administrative civil liability under CWC Sections 13267 and/or 13350, or referral to the attorney general for injunctive relief or civil or criminal liability.

Date: March 7, 1997

Ordered by:


John H. Robertus
Executive Officer

Attachments:

Site Map

Monitoring and Reporting Program No 97-17